

Epidemiological Study of 1938 Burn Patients from 2014-2016 in Qazvin, Iran

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Abstract

Background: Many people suffer from burn injuries annually. Epidemiologic studies are necessary to reveal the prevalence and related factors of burns to assist in designing an appropriate plan to reduce its mortality and morbidity.

Objectives: This study aimed to analyze the epidemiology and etiological factors of 1938 burn patients admitted to a burn unit in Qazvin, Iran.

Methods: This was a retrospective study of medical records of patients admitted to the burn unit of Shahid Rajaee Hospital from March 21, 2014 to March 20, 2016. The collected data included age, gender, percentage of burns, etiology, date of admission, date of discharge, and total burn surface area (TBSA). Descriptive statistics were used to describe the basic features of the studied variables.

Results: The mean age of the 1938 burn patients was 29.08 ± 20.52 years. The results showed that more males ($n=1391$, 71.8%) than females ($n=547$, 28.2%) were involved in burn injuries. Fire flame ($n=1019$, 52.6%) and scald ($n=529$, 27.3%) were major etiological factors of burns. Adult males ($n=458$, 23.6%), and preschool boys ($n=407$, 21.0%) were at the highest risk for burn through the study period. The mean total body surface area (TBSA) was 13.34 (SD ± 12.40) ranging from 1% to 9%, and burns of less than 20% TBSA represent the large majority of burns ($n=1653$, 85.3%).

Conclusion: This study indicates that the majority of burn injuries were of the fire flame and scald types. Preventive programs targeting the population under higher risk of burns are needed to reduce the burden of burns.

Keywords: Burns, Epidemiology, Injuries, Fire.

Introduction

Burns can be life-threatening emergencies (1,2). Burns comprise the fourth most common cause of injury after traffic accidents, falls, and interpersonal conflicts, accounting for between 5% and 12% of the world's accidents (3). Annually, burns affect approximately 11 million persons and are more prevalent than AIDS and tuberculosis (4). The incidence of burn injuries in Iran has a high with a formidable public health problem in terms of mortality, morbidity, and permanent disabilities. The first Iranian national report on burns was presented at the Isfahan Burn Congress in 2002 and stated that one million and one hundred thousand people in Iran are hospitalized annually due to burns (5).

Burns are caused by many external origins, including thermal, chemical, electrical, and radiation sources. Most burn-related injuries are caused by thermal energy, including

scalding and fires, and fewer are caused by chemical exposure, electricity, and ionizing radiation. Burns are a major cause of injury worldwide (6). Burn-related injuries are one of the most important and most expensive health issues that occur at all ages (7). Every year, thousands of people die due to burn injuries; most deaths occur in people pre-school aged or over 65 years of age (6). Burns are the 11th leading cause of death for children between 1–9 years old and the 5th most common cause of non-fatal childhood injuries. Burn injury is one of the most important causes of morbidity, disability, and mortality in developing countries (8). In Iran, burns are the sixth leading cause of mortality, as about 50,000 people suffer burns each year, of whom 2600 develop acute complications and need critical care (9).

Burn-related injuries and complications affect all aspects of human life. Survivors of burns may suffer from social problems as well as physical and psychological disorders.